

WHAT IS CLAIMED IS:

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1. A chip for a network device connectable to a computer network, the network device including a host processor, the chip comprising:  
a media access controller connectable to the computer network;  
a host interface connectable to the host processor; and  
an embedded processor coupled between the host interface and the media access controller;  
the embedded processor being programmable to function as a manageability web server, communicate with the host interface and obtain manageability information about the network device;
  - 10 the embedded processor further being programmable to send the manageability information to the media access controller for transmission over the computer network;  
whereby the chip performs network management functions independent of the host processor.
  - Sub B*  
2. The chip of claim 2, wherein the embedded processor is programmable to obtain the manageability information in response to a network request addressed to the manageability web server.
  3. The chip of claim 1, the network device further including an interchip communications means and a compliant device coupled to the interchip communication means, wherein the chip includes an interface connectable to the interchip communications means, and wherein the embedded processor is programmable to communicate via the interchip communication means interface to obtain manageability information about the compliant device.

4. The chip of claim 3, wherein the interchip communication means includes an I<sup>2</sup>C bus, and wherein the compliant device is an I<sup>2</sup>C-compliant device.

5. The chip of claim 3, wherein the embedded processor is also programmable to control the compliant device coupled to the interchip communications means.

6. The chip of claim 5, wherein the compliant device is a power supply controller, and wherein the embedded processor is programmable to control the power supply controller.

7. The chip of claim 5, wherein the compliant device is a fan controller, and wherein the embedded processor is programmable to control the fan controller.

8. The chip of claim 5, wherein the embedded processor is programmable to control the compliant device in response to a network request addressed to the manageability web server.

9. The chip of claim 5, wherein the embedded processor is programmable to perform firmware upgrades of the network device.

10. The chip of claim 1, wherein the embedded processor is programmable to perform network communications using TCP/IP.

11. The chip of claim 1, wherein the embedded processor is programmable to implement an HTTP web server.

12. The chip of claim 1, wherein the embedded processor is programmable to obtain manageability information from the host processor.

13. A network device connectable to a computer network, the network device comprising:

interchip communications means;

a compliant device coupled to the interchip communications means;

5 a chip including a media access controller connectable to the computer network; an interchip communications interface connected to the interchip communications means; and an embedded processor coupled to the interchip communications interface and the media access controller; and

10 non-volatile memory programmed with a plurality of executable instructions, the instructions, when executed, instructing the embedded processor to function as a manageability web server, communicate with the interchip communications means to obtain manageability information about the compliant device, and send the manageability information to the media access controller for transmission over the computer network.

14. The network device of claim 13, wherein the instructions instructs the embedded processor to obtain the manageability information from the compliant device in response to network requests addressed to the manageability web server.

15. The network device of claim 13, further comprising a host processor; wherein the chip includes a host interface coupled to the host processor and the embedded processor, and wherein the instructions instruct the embedded processor to obtain manageability information from the host processor.

16. The network device of claim 13, wherein the interchip communications means includes an I<sup>2</sup>C bus, wherein the compliant device is an I<sup>2</sup>C-compliant device, and wherein the instructions instruct the embedded processor to control the I<sup>2</sup>C-compliant device in response to network requests addressed to the 5 manageability web server.

17. The network device of claim 16, wherein the I<sup>2</sup>C-compliant device is a power supply controller, and wherein the instructions instruct the embedded processor to control the power supply controller.

18. The network device of claim 16, wherein the I<sup>2</sup>C-compliant device is a fan controller, and wherein the instructions instruct the embedded processor to control the fan controller.

19. The device of claim 13, wherein the non-volatile memory further stores web page content.

20. The device of claim 13, further comprising volatile memory for storing the manageability information.

21. The device of claim 13, wherein the instructions instruct the embedded processor to perform network communications using TCP/IP.

22. The device of claim 13, wherein the instructions instruct the embedded processor to implement an HTTP web server.

23. A system comprising:

a computer network;

a network device including a host processor and a chip including a media access controller coupled to the computer network, and an embedded processor coupled to the media access controller and programmed to function as an HTTP manageability web server; and

a network manager coupled to the computer network, the network manager including a web browser and a plurality of HTML files for instructing the network

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~~manager to communicate with the embedded processor in the network device and perform network management of the network device;~~

~~whereby the embedded processor can communicate with the network manager independent of the host processor.~~

24. The system of claim 23, wherein the network device includes a compliant device and wherein the embedded processor is programmable to control the compliant device in response to control requests from the network manager.

25. The system of claim 24, wherein the compliant device is a fan controller, and wherein the network manager can request the embedded processor to control the fan controller to adjust fan speed.

26. The system of claim 24, wherein the compliant device is a power supply controller, and wherein the network manager can request the embedded processor to control the power supply controller to shut down and turn on the network device at scheduled times.

27. The system of claim 24, wherein the compliant device is a power supply controller, and wherein the network manager can request the embedded processor to control the power supply controller to reboot the computer.

28. The system of claim 24, wherein the network device further includes an upgradable BIOS; and wherein the network manager can send a BIOS upgrade program to the embedded processor and request the embedded processor to run the BIOS upgrade program.

29. The system of claim 24, wherein the network manager can send a diagnostic program to the embedded processor and request the embedded

processor to run the diagnostic program and return to the network manager results obtained by the diagnostic program.

30. The system of claim 23, wherein the embedded processor is programmable to communicate with host interface and obtain manageability information from the host processor in response to requests by the network manager.

31. A method of managing a network device including a host processor, an I<sup>2</sup>C bus, and an I<sup>2</sup>C-compliant device coupled to the I<sup>2</sup>C bus, the method comprising the steps of:

using the media access control to receive network manageability information 5 requests from the computer network;

in response to received requests about the I<sup>2</sup>C -compliant device, using the I<sup>2</sup>C bus to obtain network manageability information about the I<sup>2</sup>C-compliant device connected to the I<sup>2</sup>C bus; and

using the media access controller to place the manageability information on 10 the computer network.

32. The method of claim 31, further comprising the step of communicating with the host processor in response to certain manageability information requests; and using the media access controller to place on the computer network the manageability information obtained by the host processor.

33. The method of claim 31, further comprising the step of using the media access controller to receive control requests on the computer network; and using the bus to control the I<sup>2</sup>C-compliant device in response to the control requests.

34. The method of claim 33, wherein the I<sup>2</sup>C-compliant device is a fan controller, and wherein the step of using the I<sup>2</sup>C bus to control the I<sup>2</sup>C-compliant device includes the step of setting fan speed.

35. The method of claim 33, wherein the I<sup>2</sup>C-compliant device is a power supply, and wherein the step of using the I<sup>2</sup>C bus to control the I<sup>2</sup>C-compliant device includes the step of controlling the power supply.

36. The method of claim 35, further comprising the step of communicating with the host processor in response to a received request for processor utilization; and using the I<sup>2</sup>C bus to shut down the power supply when utilization of the host processor is below a threshold.

37. The method of claim 35, wherein the power supply is controlled to shut down and turn on the network device at scheduled times.

38. The method of claim 35, wherein the power supply is controlled to reboot the computer.

39. The method of claim 33, the network device further including an embedded processor and an upgradable BIOS, the method further comprising the step of:

5 sending a BIOS upgrade program to the embedded processor;  
using the media access controller to receive the BIOS upgrade program; and  
using the embedded processor to run the received BIOS upgrade program  
and upgrade the BIOS of the network device.

40. The method of claim 33, the network device further including an embedded processor, the method further comprising the step of:

5 sending a diagnostic program to the embedded processor;  
using the media access controller to receive the diagnostic program;  
using the embedded processor to run the received diagnostic program; and  
using the media access controller to place on the computer network results  
obtained by the diagnostic program.

41. The method of claim 40, wherein a memory controller is also coupled to the I<sup>2</sup>C bus, and wherein the diagnostic program uses the bus to obtain a memory image, the memory image being included in the results

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